

CLAIMS

1. A biological rhythm adjustment method comprising:

(a) a step (S1) of inputting a moving schedule, and biological information on a
5 subject that moves in accordance with said moving schedule; and

(b) a step (S2) of setting a sleeping schedule for said subject based on said
moving schedule and said biological information.

2. The biological rhythm adjustment method according to claim 1, wherein in
10 said step (b), sleep of said subject is set to a first time/a second time correspondingly to an
eastward route/a westward route of said moving schedule, respectively, said first time
being shorter than said second time.

3. The biological rhythm adjustment method according to claim 1, wherein
15 said step (b) includes at least one of

(b-1) a step (S201; S302; S211) of introducing said subject to sleep by raising a
body temperature of said subject, and

(b-2) a step (S203, S304) of irradiating light on said subject after said subject is
aroused.

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4. The biological rhythm adjustment method according to claim 3, wherein
said step (b-1) includes a step of raising an ambient temperature of said subject.

5. The biological rhythm adjustment method according to claim 3, wherein
25 said step (b-1) includes a step of giving instructions encouraging to do exercise to said

subject.

6. The biological rhythm adjustment method according to claim 3, wherein said step (b) further includes

5 (b-3) a step (S204) of relaxing said subject after executing said steps (b-1) and (b-2) when said moving schedule is on an eastward route.

7. The biological rhythm adjustment method according to claim 3, wherein said step (b) further includes

10 (b-4) a step (S301) of relaxing said subject prior to both of said steps (b-1) and (b-2) when said moving schedule is on a westward route.

8. The biological rhythm adjustment method according to claim 6 or 7, wherein said step (S204, S301) of relaxing said subject includes a step of supplying music
15 to said subject.

9. The biological rhythm adjustment method according to claim 6 or 7, wherein said step of relaxing said subject includes a step of giving instructions encouraging to do exercise to said subject.

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10. The biological rhythm adjustment method according to claim 6 or 7, wherein said step of relaxing said subject includes a step of massaging said subject.

11. The biological rhythm adjustment method according to claim 1, wherein

25 said biological information includes a sleeping time and an arousal time of said

subject, and

said sleeping schedule is set based on said sleeping time and said arousal time as well in said step (b).

- 5 12. A biological rhythm adjustment device comprising:
an information input unit (B1) inputting a moving schedule, and biological information on a subject that moves in accordance with said moving schedule; and
a block (B21, B22) setting a sleeping schedule for said subject based on said moving schedule and said biological information.

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13. The biological rhythm adjustment device according to claim 12, wherein said block (B21, B22) includes

a parameter-setting unit (B21) for setting said sleeping schedule based on said moving schedule and said biological information, and

- 15 a sleep/arousal introducing unit (B22) setting said sleeping schedule with said parameters.

14. The biological rhythm adjustment device according to claim 13, wherein sleep of said subject is set to a first time/a second time correspondingly to an eastward
20 route/a westward route of said moving schedule, respectively, said first time being shorter than said second time.

15. The biological rhythm adjustment device according to claim 12, wherein said sleep/arousal introducing unit (B22) includes

- 25 a device (22f, 22g) raising a body temperature of said subject.

16. The biological rhythm adjustment device according to claim 12, wherein said sleep/arousal introducing unit (B22) includes a device (22b, 22c) irradiating light on said subject.

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17. The biological rhythm adjustment device according to claim 16, wherein said device raising a body temperature of said subject includes an air conditioner (22f) raising an ambient temperature of said subject.

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18. The biological rhythm adjustment device according to claim 16, wherein said device raising a body temperature of said subject includes exercise equipment (22g).

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19. The biological rhythm adjustment device according to claim 18, wherein said device raising a body temperature of said subject includes a device (22c, 22d) giving instructions encouraging to do exercise.

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20. The biological rhythm adjustment device according to claim 13, wherein said sleep/arousal introducing unit (B22) includes a device (22d, 22h, 22g) relaxing said subject.

21. The biological rhythm adjustment device according to claim 20, wherein said device relaxing said subject includes said sound output device (22d).

22. The biological rhythm adjustment device according to claim 20, wherein said device relaxing said subject includes exercise equipment (22g).

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23. The biological rhythm adjustment device according to claim 22, wherein said device relaxing said subject includes a device (22c, 22d) giving instructions encouraging to do exercise to said subject.

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24. The biological rhythm adjustment device according to claim 20, wherein said device relaxing said subject includes a massager (22h).

25. The biological rhythm adjustment device according to claim 13, wherein said biological information includes a sleeping time and an arousal time of said subject, and

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said sleeping schedule is set based on said sleeping time and said arousal time as well in said sleep/arousal introducing unit (B22).

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26. A biological rhythm adjustment system comprising:

the biological rhythm adjustment device according to any one of claims 13 to 25, wherein

said sleep/arousal introducing unit (B22) is provided to an airplane seat in an aircraft, and

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said information input unit (B1) and said parameter-setting unit (B21) are provided separately from said airplane seat.

27. The biological rhythm adjustment system according to claim 26, wherein said parameter-setting unit (B21) is provided in the crew's cabin in said aircraft.

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28. The biological rhythm adjustment device according to claim 25, wherein said information input unit (B1) is provided to a check-in counter for said aircraft.

29. The biological rhythm adjustment system according to claim 26, wherein
5 said information input unit (B1) is provided to a check-in counter for said aircraft.

30. A biological rhythm adjustment method comprising:
a first step (S201; S211) of encouraging the onset of sleep before the onset of
sleep;
10 a second step (S212) of reducing an ambient temperature in a predetermined
period of time following the onset of sleep;
a third step (S212) of raising an ambient temperature in a prescribed period of
time, from a point in time that goes back said prescribed period of time from a scheduled
arousal time; and
15 a fourth step (S203) of weakening drowsiness after arousal.

31. A biological rhythm adjustment method comprising:
a first step (S301; S311) of interfering with the onset of sleep before the onset
of sleep;
20 a second step (S313) of reducing an ambient temperature in a predetermined
period of time following the onset of sleep;
a third step (S313) of raising said ambient temperature in a prescribed period of
time, from a point in time that goes back said prescribed period of time from a scheduled
arousal time; and
25 a fourth step (S313) of interfering with arousal prior to said scheduled arousal

time.

32. A biological rhythm adjustment method comprising:

a first step (S201; S211) of encouraging the onset of sleep before the onset of
5 sleep;

a second step (S313) of reducing an ambient temperature in a prescribed period
of time following the onset of sleep;

a third step (S313) of raising an ambient temperature in a predetermined period
of time, from a point in time that goes back said prescribed period of time from a
10 scheduled arousal time after the onset of sleep; and

a fourth step (S313) of interfering with arousal prior to said scheduled arousal
time.

33. A biological rhythm adjustment method comprising:

a first step (S301; S311) of interfering with the onset of sleep before the onset
15 of sleep;

a second step (S212) of reducing an ambient temperature in a predetermined
period of time following the onset of sleep;

a third step (S212) of raising an ambient temperature in a prescribed period of
20 time, from a point in time that goes back said prescribed period of time from a scheduled
arousal time; and

a fourth step (S203) of weakening drowsiness after arousal.

34. The biological rhythm adjustment method according to any one of claims

25 30 to 33, wherein after said ambient temperature reaches a lowest value in said second

step, said ambient temperature is kept at said lowest value until said point in time of starting said third step.